REMARKS

Claims 1-44 are pending in the present application. By this Response, the specification is amended, however no amendments to the claims are made by this Response. The specification is amended to recite that the heat flow is zero or substantially zero. The amendments to the specification do not constitute new matter since the feature of the heat flow being substantially zero was presented in the originally filed claims. Reconsideration of the claims is respectfully requested.

I. Allowable Subject Matter

Applicants thank Examiner Kasenge for the indication of allowable subject matter in claims 3-10, 14-20, 23-30 and 33-44. However, for the reasons set forth hereafter, Applicants respectfully submit that all of claims 1-44 are directed to allowable subject matter and the application is in condition for allowance.

II. Telephone Interview

Applicants thank Examiner Kasenge and Supervisory Examiner Picard for the courtesies extended to Applicants' representative during the December 4 and December 5, 2003 telephone interviews. During the December 5, 2003 telephone interview with Examiner Kasenge and Supervisory Examiner Picard, the issue of definiteness with regard to the phrase "substantially zero" was discussed. Examiner Picard indicated that a range need to be specified in order for this term to be considered definite because Examiner Picard was concerned about determining infringement in subsequent possible litigation. Applicants' representative indicated that this was not an issue with regard to 35 U.S.C. § 112, second paragraph since the claim terms are definite as they are and that the use of the term "substantially" as a definite term has been acknowledged by the US Patent and Trademark Office as stated in the MPEP. The substance of the interview is summarized in the following remarks.

III. 35 U.S.C. § 112, Second Paragraph

The Office Action rejects claims 1, 2, 11, 12, 13, 21, 22, 31, and 32 under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter, which Applicant regards as the invention. This rejection is respectfully traversed.

As to claims 1, 2, 11, 12, 13, 21, 22, 31, and 32, the Office Action states:

> The term "substantially zero" in claims 1, 2, 11, 12, 13, 21, 22, 31, and 32 is a relative term, which renders the claims indefinite. The term "substantially zero" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Office Action dated September 5, 2003, page 2.

MPEP § 2173.05(b) states that "the fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. § 112, second paragraph." This section further states that the acceptability of the claim language depends on whether one or ordinary skill in the art would understand what is claimed in light of the specification. Applicant respectfully submits that one of ordinary skill in the art would understand what is claimed by the use of the term "substantially zero" in the present claims, as discussed hereafter.

The use of the term "substantially" has been widely held to be a broad, yet definite, term. *In re Nehrenberg*, 280 F.2d 161, 126 USPQ 2383 (CCPA 1960). The court has held that the limitation "to substantially increase the efficiency of the compound as a copper extractant" was definite in view of the general guidelines contained in the specification. *In re Mattison*, 509 F.2d 563, 184 USPQ 484 (CCPA 1975). The court has also held that the limitation "which produces substantially equal E and H plane illumination patterns" was definite because one of ordinary skill in the art would know what was meant by "substantially equal." *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988). The court further recognized that "the term 'substantially' in patent claims gives rise to some definitional leeway...Patentees may use

these terms to avoid unduly limiting the modified word. Thus, the term 'substantially' may prevent avoidance of infringement by minor changes that do not affect the results sought and accomplished." *C.E. Equipment Co. Inc. v. United States*, 13 USPQ2d 1363, 1368 (Cl. Ct. 1989).

The use of the term "substantially zero" is similar to these uses of the term "substantially" in that the term is not precise yet is readily understandable to those of ordinary skill in the art. One of ordinary skill in the art, in view of the present specification, would understand what is meant by the term "substantially zero" as it is used in the present claims. Pages 22-23 describe the manner by which a probe, in accordance with the present invention, may be used to thermally characterize a GMR sensor of a read/write head. As discussed on pages 22-23, this measurement takes advantage of a theoretical state in which the heat flow Θ through the probe is zero. In actuality, it may be very difficult to achieve and maintain the heat flow at exactly zero due to many different factors, including physical limitations and human error. This is recognized in the use of the term "substantially zero" in the originally presented claims. Thus, the term "substantially zero," as would be apparent to those of ordinary skill in the art, means as close to zero as is possible in view of these different factors that may make it impossible to achieve and maintain absolute zero heat flow.

These arguments were presented to Examiner Kasenge and Supervisory Examiner Picard during the December 5, 2003 telephone interview. The Examiners stated that Applicants' must set forth a range of values and show what the "normal" heat flow value is in the prior art in order for the term "substantially zero" to be definite. Applicants respectfully disagree.

As stated in *Bausch & Lomb Inc. v. Alcon Laboratories Inc.*, 64 F. Supp.2d 233, 240-45, 52 USPQ2d 1385, 1390-94 (W.D. N.Y. 1999), *later opinion*, 79 F. Supp.2d 243, 53 USPQ2d 1353 (W.D. N.Y. 1999), "The law is clear that the use of terms of degree, such as 'substantially,' in patent claims does not necessarily render the claims indefinite."; "[S]imply because claims could be framed in terms of specific numbers does not mean that they must be. The bottom line is whether one of ordinary skill in the art would understand the claims..." (emphasis added). Furthermore, the Federal Circuit stated in *Modine Manufacturing Co. v. United States International Trade Commission*, 75 F. 3d

1545, 1557, 37 USPQ2d 1609, 1617 (Fed. Cir. 1996), stated that "[m]athematical precision should not be imposed for its own sake; a patentee has the right to claim the invention in terms that would be understood by persons of skill in the field of invention" (emphasis added).

As stated above, Applicants respectfully submit that one of ordinary skill in the art would be well aware of what is meant by the term "substantially zero." It is not necessary for Applicants to set forth a range in order for one of ordinary skill in the art to understand the scope of the use of this term in the present claims. While Applicants appreciate the Examiners' intent of making it "easy" during potential subsequent litigation to determine whether a particular value would be infringing on the feature of the heat flow being "substantially zero," this is not a matter of definiteness under 35 U.S.C. § 112, second paragraph. In fact, *Gould, Inc. v. Graphic Controls Corp.*, 196 USPQ 13 (N.D. Ill. 1977) stated that "It is not clear as a matter of law that § 112 applies where the claims of the patent are precise and definite, but where infringement is hard to ascertain."

In the present case, as has been illustrated above, the term "substantially zero" is definite, albeit broad. Whether or not a particular heat flow value would infringe the feature of the heat flow being "substantially zero" is not a question of definiteness, but one of breadth. If the Examiner finds a reference that teaches all of the other features of the claims and a feature in which the heat flow is a particular value, then the issue of whether that particular value would fall within the scope of "substantially zero" would be a pertinent issue with regard to 35 U.S.C. § 102 or 103. However, in the present case, the Examiner has not done so. Thus, the Examiners' concern with regard to litigation, while appreciated by Applicants, is not material to determining whether the phrase "substantially zero" is definite.

Thus, Applicant respectfully submits that the term "substantially zero" as it is used in the present claims is not indefinite, even though the term may not be precise, in accordance with MPEP § 2173.05(b). One of ordinary skill in the art, in view of the specification, would be well apprised of the scope of the claims, as discussed above. Thus, Applicant respectfully requests that the rejection of claims 1, 2, 11, 12, 13, 21, 22, 31 and 32 under 35 U.S.C. § 112, second paragraph be withdrawn.

IV. Conclusion

It is respectfully urged that the subject application is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

DATE: December 5, 2003

Stephen J. Walder, Jr.
Reg. No. 41,534
Carstens, Yee & Cahoon, LLP
P.O. Box 802334
Dallas, TX 75380
(972) 367-2001
Attorney for Applicant